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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,630	12/11/2003	Giora Biran	FIS920030278US1	1660

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EXAMINER
NGUYEN, QUANG N

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action *Before the Filing of an Appeal Brief*	Application No. *10/733,630*	Applicant(s) BIRAN ET AL.	
	Examiner Quang N. Nguyen	Art Unit 2141	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED <u>13 January 2006</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

    a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.

    b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

        Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

    (a)☐ They raise new issues that would require further consideration and/or search (see NOTE below);

    (b)☐ They raise the issue of new matter (see NOTE below);

    (c)☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

    (d)☐ They present additional claims without canceling a corresponding number of finally rejected claims.

        NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

    The status of the claim(s) is (or will be) as follows:

    Claim(s) allowed: *None*.

    Claim(s) objected to: *None*.

    Claim(s) rejected: *1-20*.

    Claim(s) withdrawn from consideration: *None*.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
    <u>See attachment.</u>

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. ☐ Other: _____.

Detailed Action

1.   This Office Action is in response to the After Final Response filed on 01/13/2006.

Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   **Claims 1, 3-8, 10-15 and 17-20 are rejected under 35 U.S.C. 102(e) as being**

anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pazos

(US 2005/0068896 A1).

4.   As to claim 1, Pazos teaches a system and method for transmission control

protocol (TCP) acceleration, comprising:

generating a first duplicate TCP acknowledgement (Ack) covering a received

TCP segment *(a TCP receiver issues a duplicate ACK whenever an out-of-order*

segment arrives) that is determined to be valid by TCP and was dropped by TCP based

on an upper layer protocol (ULP) decision *(Examiner respectfully submits that one*

skilled in the art would readily appreciate that if the TCP receiver runs out of buffer for

the received out-of-order TCP segments, the receiver will drop the received out-of-order

TCP segments and process only the received in-order TCP segments) (Pazos,

paragraph [0007]); and

transmitting the first duplicate TCP Ack (Pazos, paragraph [0007]).

5.   As to claim 3, Pazos teaches the method of claim 1, wherein the first duplicate

TCP Ack is generated for a TCP segment regardless of whether the TCP segment is in-

order or out-of-order *(a TCP receiver issues a duplicate ACK whenever an out-of-order*

segment arrives) (Pazos, paragraph [0007]).

6.   As to claim 4, Pazos teaches the method of claim 1, wherein the first duplicate

TCP Ack is generated even where a next in-order TCP segment has not been received

(all packets received after a lost or out-of-order packet will trigger duplicate ACKs)

(Pazos, paragraph [0007]).

7.   As to claims 5-6, Pazos teaches the method of claim 1, further comprising the steps of generating and transmitting a second duplicate TCP Ack covering a next out-of-order received TCP segment *(if packets are not lost, but are simply received out-of-order, some duplicate ACKs will result, i.e., will be generated and transmitted to the source)* (Pazos, paragraph [0007]).

8.   Claims 7-8 and 10-13 are corresponding system claims of method claims 1 and 3-6; therefore, they are rejected under the same rationale.

9.   Claims 14-15 and 17-20 are corresponding computer program product claims of method claims 1 and 3-6; therefore, they are rejected under the same rationale.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.   **Claims 2, 9 and 16 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Pazos, in view of Elzur (US 2003/0172342 A1).**

12.   As to claim 2, Pazos teaches the method of claim 1, but does not explicitly teach
wherein the ULP includes at least one of a marker with protocol data unit alignment
(MPA) protocol, a direct data placement (DDP) protocol, and a remote direct memory
access (RDMA) protocol.

In a related art, Elzur teaches a system and method for identifying upper layer
protocol (ULP) message boundaries, wherein the upper layer (UL) may form a ULP
packet by placing ULP control information or ULP data unit (ULPDU) as a payload for
the Lower Layer Protocol such as RDMA/DDP and the RDMA/DDP PDU may be placed
into a framing PDU (Elzur, paragraph [0021]).

Therefore, it would have been obvious to one having ordinary skill in the art at
the time the invention was made to combine the teachings of Pazos and Elzur to include
at least one of a marker with protocol data unit alignment (MPA) protocol, a direct data
placement (DDP) protocol, and a remote direct memory access (RDMA) protocol in the
ULP since such methods were conventionally employed in the art to allow the system to
embed and identify the beginning of ULP control information (boundary information)
about the ULP payload to indicate in which memory and in which location within the
memory the ULPDU data should be directly placed.

13.   Claim 9 is a corresponding system claim of method claim 2; therefore, it is rejected under the same rationale.

14.   Claim 16 is a corresponding computer program product claim of method claim 2; therefore, it is rejected under the same rationale.

Response to Arguments

15.   In the remarks, Applicant argued in substance that

(A)   Prior Arts fail to disclose "generating a first duplicate TCP acknowledgement (Ack) covering a received TCP segment that is determined to be valid by the TCP and was dropped by TCP based on an upper layer protocol (ULP) decision", as claimed.

As to point (A), **Pazos** teaches a TCP receiver issues/generates a duplicate ACK whenever an out-of-order TCP segment arrives. Hence, all packets received after a lost packet will trigger duplicate ACKs. If packets are not lost, but are simply received out-

of-order *(i.e., a received TCP segment that is determined to be valid)*, some duplicate ACKs will result **(Pazos, paragraphs [0005] and [0007])**. Examiner respectfully submits that one skilled in the art would readily appreciate that if the TCP receiver runs out of buffer for the received out-of-order TCP segments, the receiver will drop the received out-of-order TCP segments *(i.e., a received TCP segment that is determined to be valid and was dropped)* and process only the received in-order TCP segments **(also supported by Elzur, paragraph [0042])**.

(B)   Applicant argued that "Accordingly, in the claimed invention, a TCP segment may be dropped due to ULP considerations, e.g., corruption or invalid CRC of DDP segments, even though the TCP segment has passed the TCP checksum (i.e., is valid)".

As to point **(B)**, in response to applicant's argument that the references fail to show certain features of applicant's invention ("<u>*valid by TCP*</u>"), it is noted that the features upon which applicant relies *(i.e., "a TCP segment may be dropped due to ULP considerations, e.g., corruption or invalid CRC of DDP segments, even though the TCP segment has passed the TCP checksum")* are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(C)   Applicant argued that "However, in the present invention, even though a second TCP segment has not been received, the transmitter knows that a first TCP segment, a valid TCP segment, was received and dropped due to a ULP consideration. As a result, the additional duplicate Ack forces the transmitter to begin the retransmit procedure earlier where a number of duplicate Acks must be received before retransmission begins."

As to point **(C)**, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is also noted that the features upon which applicant relies *(i.e., "even though a second TCP segment has not been received, the transmitter knows that a first TCP segment, a valid TCP segment, was received and dropped due to a ULP consideration. As a result, the additional duplicate Ack forces the transmitter to begin the retransmit procedure earlier where a number of duplicate Acks must be received before retransmission begins.")* are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

16.   Applicant's arguments as well as request for reconsideration filed on 01/13/2006 have been fully considered but they are not deemed to be persuasive.

17.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER